INTEGRATED EDUCATION PROGRAM (IEP)

TEACHER BASELINE REPORT

for:

Cohorts 1, 2 and 3

Commissioned by
RTI International

under contract to USAID
Contract No. 674-C-00-04-00032-00

Report prepared

November 2005

by

TABLE OF CONTENTS

ACRONYMNS

AIDS	Acquired Immunodeficiency Syndrome
AS	Assessment Standard/s
C2005	Curriculum 2005
Btw	Between
DDSP	District Development Support Programme
DO	District Official
DoE	Department of Education
EC	Eastern Cape [province]
EQ	Educator Questionnaires
FET	Further Education and Training
Gr	Grade
HIV	Human Immunodeficiency Virus
IEP	Integrated Education Programme
JET	JET Education Services
KZN	KwaZulu Natal [province]
LA	Learning Area
LIMP	Limpopo [province]
LO	Learning Outcome
MT	Master Teacher
N	Number
NC	Northern Cape [province]
NCS	National Curriculum Statement
NGO	Non-government Organisation
OBE	Outcomes Based Education
PED	Provincial Education Department
RNCS	Revised National Curriculum Statement
RTI	Research Triangle Institute
SA	South Africa
SGB	School Governing Bodies
SMT	School Management Teams
USAID	United States Agency for International Development

1. INTRODUCTION AND BACKGROUND

Integrated Education Program (IEP) is an on-going basic education program of USAID-South Africa. IEP is a follow-on project to the District Development Support Program (DDSP). The DDSP provided support to basic education programs in teacher education, curriculum development as well as school management and governance in selected districts in four provinces during the past five years. It aimed to achieve improved quality of primary education. This goal remains unchanged under the IEP and hence in its design and structure the emphasis on learner achievement and systemic improvement.

The goal of the program is 'improved student performance in numeracy, literacy, mathematics and science for students in participating schools'. The achievement of the following key objectives will enable USAID South Africa to attain the specific results of the IEP, most of which focus on improving the system's capacity to deliver quality maths and science programs.

The main objectives of the program are:

- Enhanced capacity of teachers (targeted to the teaching of literacy, numeracy, mathematics and science);
- Effective implementation of the National Curriculum Statement (NCS) with a focus on teaching of literacy, numeracy, mathematics, and science curriculum;
- Improved educational management and enhanced school governance;
- Integration of HIV and AIDS issues into curricula and teaching;
- Increased number of mathematics and science teachers trained through pre-service programs; and
- Support to the national and provincial Departments of Education.

The stated goal and objectives have been discussed with the national Department of Education (DoE) and the four target provincial Departments of Education (Eastern Cape Department of Education, KwaZulu-Natal Department of Education, Limpopo Department of Education, and Northern Cape Department of Education). The goal and objectives are consistent with government priorities.

To achieve these objectives, the program goal and its **ten results**, as listed below, must be achieved over the life of the project.

Result 1: Increased subject matter knowledge for teachers in the targeted subject areas.

Result 2: Improved ability of teachers to develop and apply continuous assessment strategies and techniques.

Result 3: Increased number of maths and science teachers and new teachers trained.

Result 4: Increased number of teachers that are teaching literacy, numeracy, mathematics and science in a manner consistent with the RNCS.

Result 5: Improved teachers' ability to develop and use classroom materials that support Curriculum 2005 learner-centered instruction.

Result 6: Improved Instructional Leadership skills for School Management Teams (SMTs).

Result 7: Improved management and administrative capacity of schools to collaborate with School Governing Bodies (SGBs) and communities to

develop and effectively implement School Development Plans to improve school functionality.

Result 8: Improved district capacity to develop and effectively implement a strategic plan for school support.

Result 9: Support to the national Department of Education (DoE) on policy - related activities.

Result 10: Support to appropriate national Department of Education (DoE) activities.

In late 2004, the IEP designed and set benchmarks targets, which are intended to be achieved over the life of the project[1]. RTI-IEP and subcontractors will be judged on whether these are attained. To measure these targets, baseline instruments were developed. The IEP baseline instruments are divided into two categories, content/subject matter knowledge tests and questionnaires.

The content/subject matter knowledge instruments measure Result 1 in respective learning areas (LAs), while the IEP questionnaires measure results 2, 4, 5. The content/subject matter knowledge tests consisted of:

- Literacy test (Foundation Phase),
- Numeracy test (Foundation Phase),
- Maths test (Intermediate phases),
- Science and Technology test (Intermediate phases),
- Maths test (Further Education and Training), and
- Science (Further Education and Training).

The IEP subcontractors responsible for content/subject matter knowledge in the targeted learning areas developed the baseline instruments. The literacy test for Foundation Phase was developed by READ and Molteno, numeracy and maths for Foundation and Intermediate Phases by COUNT. PROTEC developed the following tests: the science and technology for Intermediate and FET Phases as well as maths for FET. The subcontractors used IEP's Goal and Results as a frame of reference when developing these tools. The content knowledge tests were not subjected to statistical analysis to measure their reliability and validity. This was due to the limited resources available and time available before the first residential. All developed instruments were piloted to ensure that the level of difficulty was appropriate.

The educator questionnaire, which was developed by RTI-IEP programme managers, covers Results 2, 4 and 5. These results address teachers' ability to develop and apply continuous assessment strategies and techniques; their ability to teach in a manner consistent with the RNCS, as well as develop and use classroom materials that support learner-centered teaching. The IEP Questionnaire was designed for all master teachers (MT).

These baseline tests and questionnaires were administered to the Master Teachers (MTs) who attended residential training in September and December 2004 and January 2005 across the three cohorts in all targeted provinces, viz. Eastern Cape, KwaZulu-Natal, Limpopo and Northern Cape. Subcontractors monitored the administration of the baseline. However, not all MTs who attended the residential training completed all baseline tests. Factors that reportedly caused some MTs not to complete the baseline were late coming and absenteeism on the first day.

[1] Generally, they serve to set minimum improvement targets for IEP MTs in the year 2, 3 and 4 against all IEP results.

As a means to measure progress and whether targets were being achieved by MTs, the learning area subcontractors who developed the materials recommended pass/no pass benchmarks. The table below indicates the agreed minimum standard or marks required by a MT to pass the baseline in each of the learning areas/subjects tested. Those MTs who fell below the pass mark, are treated as having obtained a 'No Pass' result, where minimum standards of expected performance are not met:

Baseline Instrument	Pass mark
1. Educator Questionnaire	86%
2. Language/Literacy (Foundation Phase)	60%
3. Numeracy (Foundation Phase)	50%
4. Mathematics (Intermediate Phase)	50%
5. Science and Technology (IP)	50%
6. Mathematics (FET)	50%
7. Science (FET)	50%

All content/subject knowledge tests were marked by the learning area subcontractors, while the educator questionnaires were marked by the RTI-IEP programme managers. It was expected that the marking of all the baseline tests would be completed during the residential training week. This did not happen as planned, and the marking and analysis of results was completed weeks after the residential trainings. Nonetheless, the tests were marked and marks with the prescribed pass/no pass benchmarks were submitted to the respective coordinating subcontractors for data capturing.

2. PURPOSE OF THIS REPORT

Following data collection and capturing, RTI-IEP undertook to analyse the data in collaboration with respective subcontractors. These results are reported for each of the three cohorts in separate reports. However, quality assurance measures revealed a number of discrepancies emerging from the reports. JET Education Services (JET) was commissioned to assist RTI-IEP in verifying the data and compiling an amalgamated report of results for the three cohorts.

This report focuses on the results for master teachers on the educator questionnaire and the respective content/subject matter knowledge tests, specifically in relation to the obtained pass rates; the average or mean scores; and areas of weakness identified in the baseline tests and any solutions thereof.

3. FINDINGS

3.1 Educator Questionnaire (EQ)

3.1.1 Description of the sample

Overall 753[2] MTs completed the questionnaire. Tables 1, 2 and 3 break this down by province, cohort and teaching phase respectively.

[2] An additional 23 teachers from NON-IEP schools who volunteered to participate in the training were also tested, but these teachers are not included in the analyses

Table 1: Description of sample of MTs who completed the EQ per province

Province	Frequency	Percent
EC	172	22.8
KZ	176	23.4
LP	257	34.1
NC	148	19.7
TOTAL	**753**	**100.0**

Table 2: Description of sample of MTs who completed the EQ per cohort

IEP Cohort	Frequency	Percent
Poor Performing	451	59.9
Better Performing	46	6.1
First Time Primary Schools	207	27.5
First Time High Schools	41	5.4
No Data[3]	8	1.1
TOTAL	**753**	**100.0**

Table 3: Description of sample of MTs who completed the EQ per teaching phase

Phase	Frequency	Percent
Foundation	286	38.0
Intermediate	381	50.6
Senior	31	4.1
FET	46	6.1
No Data[4]	9	1.2
TOTAL	**753**	**100.0**

As final test results were available for the few teachers where no cohort or phase information was not apparent, these were included in analyses of overall performance rates and pass rates as discussed below.

3.1.2 Overall performance and pass rates

The overall results on the EQ show a performance rate[5] of 59% (see table 4).

Table 4: Overall performance rate of MTs on the EQ

Number of MTs tested	Minimum % Score	Maximum % Score	Mean	Std. Deviation
753	0	100	58.74	29.824

NOTE: The percentage scores are calculated by multiplying the raw score by 100 and dividing by 14 (i.e., the total test score).

[3] No cohort information was available for 8 teachers in the data provided to JET.
[4] No phase information was available for 9 teachers in the database provided to JET.
[5] This refers to the overall mean or average score obtained by the sample

As shown by Table 5, 14% of MTs achieved 100% on the questionnaire, while 6% obtained a zero. This table shows the percentage scores achieved by MTs on the EQ.

Table 5: Distribution of percentage scores achieved by MTs on the EQ

% Scores	Frequency	Percent
0	43	5.7
14	70	9.3
29	71	9.4
43	96	12.7
57	104	13.8
71	139	18.5
86	124	16.5
100	106	14.1
Total	**753**	**100.0**

Tables 6, 7 and 8 break down the performance rates for respective provinces, cohorts and teaching phases.

Table 6: Performance rate of MTs on the EQ disaggregated by province

Province	Mean	N	Std. Deviation
EC	72.08	172	25.670
KZ	57.86	176	29.840
LP	56.11	257	29.507
NC	48.83	148	29.789
Total	**58.74**	**753**	**29.824**

Table 7: Performance rate of MTs on the EQ disaggregated by cohort

Cohort	Mean	N	Std. Deviation
Poor Performing	58.65	451	29.241
Better Performing	65.83	46	26.665
First Time Primary Schools	63.11	207	30.191
First Time High Schools	30.66	41	21.843
Total	**58.79**	**745**	**29.834**

Table 8: Performance rate of MTs on the EQ disaggregated by teaching phase

Phase	Mean	N	Std. Deviation
Foundation	63.70	286	28.319
Intermediate	59.27	380	29.420
Senior	48.90	31	34.619
FET	32.51	47	24.350
Total	**58.85**	**744**	**29.856**

Provincially, Eastern Cape performed the best with an overall performance rate of 72% while Northern Cape scored the worst with an overall performance rate of 49%

being achieved. The low performance rate in the Northern Cape could possibly be attributed to the inclusion of FET MTs who performed poorly overall.

When cohorts are compared, Better Performing (Cohort 2) Schools performed the best overall reaching a mean (performance rate) of 66%. This is followed closely by the First Group of New Primary Schools (Cohort 3) where an average score of 63% was obtained. First Time High Schools (in the Northern Cape) performed the worst overall with a performance rate of 31% being achieved by MTs. It is not clear why teachers in high schools scored considerably lower than those in the primary schools on the educator questionnaire.

At the phase level, Foundation Phase MTs achieved a higher performance rate (64%) than those in all other phases, with the FET achieving the lowest rate (33%).

In terms of pass rate, of the 753 teachers who completed the educator questionnaire, only 30.4% attained a score of 86% or more (see table 9).

Table 9: Pass rate of MTs on the EQ

	Frequency	Percent
No pass	524	69.6
Pass	229	30.4
Total	**753**	**100.0**

This means that only a third of the MTs who were assessed on the EQ have the proper documentation in place, do continuous assessment of their learners, use student-centred teaching methods, and have the ability to develop and use classroom materials that support C2005. Tables 10, 11 and 12 disaggregate the pass rate per province, cohort and teaching phase.

Table 10: Pass rate of MTs on the EQ as disaggregated by province

Province		Frequency	Percent
EC	No pass	90	52.3
	Pass	82	47.7
	Total	172	100.0
KZ	No pass	125	71.0
	Pass	51	29.0
	Total	176	100.0
LP	No pass	192	74.7
	Pass	65	25.3
	Total	257	100.0
NC	No pass	117	79.1
	Pass	31	20.9
	Total	148	100.0

Table 11: Pass rate of MTs on the EQ as disaggregated by cohort

Cohort		Frequency	Percent
Poor Performing	No pass	319	70.7
	Pass	132	29.3
	Total	451	100.0
Better Performing	No pass	29	63.0
	Pass	17	37.0
	Total	46	100.0
First Time Primary Schools	No pass	129	62.3
	Pass	78	37.7
	Total	207	100.0
High Schools	No pass	40	97.6
	Pass	1	2.4
	Total	41	100.0
No data	No pass	7	87.5
	Pass	1	12.5
	Total	8	100.0

Table 12: Pass rate of MTs on the EQ as disaggregated by teaching phase

Phase		Frequency	Percent
Foundation	No pass	186	65.0
	Pass	100	35.0
	Total	286	100.0
Intermediate	No pass	266	69.8
	Pass	115	30.2
	Total	381	100.0
Senior	No pass	21	67.7
	Pass	10	32.3
	Total	31	100.0
FET	No pass	44	95.7
	Pass	2	4.3
	Total	46	100.0
No data	No pass	7	77.8
	Pass	2	22.2
	Total	9	100.0

Tables 10 to 12 support the overall finding that a large percentage of MTs are not prescribing to or are struggling to implement the appropriate curriculum management procedures and teaching practices as dictated by C2005. This is explained in more detail in the section 3.1.3 which now follows.

3.1.3 Performance and pass rates per IEP Result

The Educator Questionnaire relates to Results 2, 4 and 5. Each of the questions was linked to the Results. Thus, questions 1 and 2 relate to Result 2, questions 3 and 4 to Result 4 and questions 5, 6, 7 to Result 5. The performance rate and the pass rates will now be examined for each of the corresponding IEP Results.

a) ***Result 2**: Improved ability of teachers to develop and apply continuous assessment strategies and techniques.*

The aim of Result 2 is to assess the percentage of Master Teachers that have documentation in place that reflects the continuous assessment of students' performance in the targeted learning areas.

The baseline for Result 2 indicates that 36% of teachers across the four provinces have documentation in place that reflects their continuous assessment of students' performance in the targeted learning areas. IEP learning area subcontractors, RTI-IEP program managers and the department officials are visiting schools to support teachers in this area and to monitor this result.

In line with baseline targets, during year 2, educators are expected to improve by 8%.

Table 13: Distribution of percentage scores for the EQ-Result 2

% scores	Number of MTs	Percent
.00	175	24.1
50.00	290	40.0
100.00	260	35.9
Total	**725**[6]	**100.0**

The performance rate for Result 2 was 56%. See table 14 below.

Table 14: Performance rate for the EQ-Result 2

N	Minimum	Maximum	Mean	Std. Deviation
725	.00	100.00	55.8621	38.31006

Table 15 disaggregates the performance rate for result 2 on the EQ by learning area.

Table 15: Performance rate for the EQ-Result 2 by learning area

LearningArea	N	Minimum	Maximum	Mean	Std. Deviation
First Additional Language	165	0.00	100.00	62.7273	37.30827
Numeracy	125	0.00	100.00	53.2000	37.42950
Mathematics	172	0.00	100.00	56.1047	39.44721
Science	181	0.00	100.00	54.9724	38.04419

Note: Total number of teachers does not equal 725 as there was no data on learning area in 69 cases.

[6] Although the database that was given to JET contained the overall percentage scores attained with related pass/no pass mark categories, itemized data was not available for all MTs. Thus, of the 753 teachers who complete the EQ, itemized data was not available for 28 of them.

b) ***Result 4****: Increased number of teachers that are teaching literacy, numeracy, mathematics and science in a manner consistent with the RNCS.*

The aim of this part of the instrument was to assess the percentage of teachers that are using student-centered teaching to implement the RNCS in their classrooms. The baseline for Result 4 shows that 42% of the teachers in the participating schools across the four provinces are relying on student-centered teaching practices to implement RNCS and OBE principles in their classrooms. This performance rate provides room for MTs to further improve and achieve 20% improvements over baseline.

According to RTI-IEP, there is increased advocacy and training surrounding the RNCS as PEDs attempt to translate the RNCS document into a document that can be easily adapted to meet provincial needs. Although the results suggest some application, cluster support workshops and mid-year classroom observations will confirm whether MTs teach literacy, numeracy, mathematics, and science in a manner consistent with the RNCS.

Table 16: Distribution of percentage scores for the EQ-Result 4

% scores	Number of MTs	Percent
.00	183	25.2
50.00	238	32.8
100.00	304	41.9
Total	**725**	**100.0**

The performance rate for Result 4 was 58%. See table 17 below.

Table 17: Performance rate for the EQ-Result 4

N	Minimum	Maximum	Mean	Std. Deviation
725	.00	100.00	58.3448	40.14844

Table 18 disaggregates the performance rate for result 4 on the EQ by learning area.

Table 18: Performance rate for the EQ-Result 4 by learning area

LearningArea	N	Minimum	Maximum	Mean	Std. Deviation
First Additional Language	165	.00	100.00	60.9091	39.07183
Numeracy	125	.00	100.00	60.4000	40.80639
Mathematics	172	.00	100.00	57.8488	39.50750
Science	181	.00	100.00	59.6685	40.17877

Note: Total number of teachers does not equal 725 as there was no data on learning area in 69 cases.

c) ***Result 5****: Improved teachers' ability to develop and use classroom materials that support Curriculum 2005 learner-centered instruction.*

Result 5 focuses on improving MTs' ability to develop and use classroom materials that support C2005 learner-centered instruction. The educator questionnaire was used to assess the percentage of teachers in participating schools that are

developing and using teacher-created materials in their classrooms. The baseline for Result 5 shows that 39% of the tested MTs in the participating schools across the four provinces are aware what teacher-created materials are and should be used in their classrooms.

In line with baseline targets, during year 2, educators are expected to improve by 8%. However, during the first round of cluster workshops for MTs, it became apparent that this rate of performance for a baseline was high as the workshops revealed that teachers are not developing teaching and learning materials with ease and teachers are clearly not accustomed to preparing their own learning materials. As a result, the IEP will continue to support teachers in this area to ensure that this takes place.

Table 19: Distribution of percentage scores for the EQ-Result 5

% scores	Number of MTs	Percent
.00	128	17.0
33.33	144	19.1
66.67	173	23.0
100.00	280	37.2
Total	**725**	**96.3**

The performance rate for Result 5 was 58%. See table 18 below.

Table 20: Performance rate for the EQ-Result 5

N	Minimum	Maximum	Mean	Std. Deviation
725	.00	100.00	61.1494	37.49643

Table 21 disaggregates the performance rate for result 5 on the EQ by learning area.

Table 21: Performance rate for the EQ-Result 5 by learning area

LearningArea	N	Minimum	Maximum	Mean	Std. Deviation
First Additional Language	165	.00	100.00	71.7172	33.25317
Numeracy	125	.00	100.00	65.3333	37.72186
Mathematics	172	.00	100.00	57.9457	38.42469
Science	181	.00	100.00	60.0368	35.38499

Note: Total number of teachers does not equal 725 as there was no data on learning area in 69 cases.

3.1.4 Concluding Remarks

The educator questionnaire relied on educators to self-report on their teaching practices. Much has been written on the issue of unreliability of self-report data. It is for this reason that the data from the questionnaires should be treated with some circumspection.

It is for this reason that IEP piloted the use of classroom observations in mid-2005 and will be shifting to a system based on classroom observations in 2006 in order to attain a true reflection of classroom practices of IEP MTs under these three results.

3.2 TEACHER CONTENT TESTS

3.2.1 Numeracy

3.2.1.1 Description of the sample

Overall 142[7] Foundation Phase MTs completed the numeracy test. Tables 22 and 23 break this down by province and cohort respectively.

Table 22: Description of sample of Foundation Phase MTs who completed the numeracy test per province

Province	Frequency	Percent
EC	22	15.5
KZ	47	33.1
LP	50	35.2
NC	23	16.2
TOTAL	**142**	**100.0**

Table 23: Description of sample of Foundation Phase MTs who completed the numeracy test per cohort

IEP Cohort	Frequency	Percent
Poor Performing	87	61.3
Better Performing	12	8.5
First Time Primary Schools	43	30.2
TOTAL	**142**	**100.0**

Only Foundation Phase MTs wrote the numeracy test.

3.2.1. 2 Overall performance and pass rates

The numeracy test relates to Result 1. The aim of Result 1 is to obtain increased subject matter knowledge for Master Teachers in the targeted learning areas (in this case, Numeracy).

The baseline result for Foundation Phase teachers on the numeracy test show a performance rate of 25% across the four provinces (see table 24). In line with baseline targets, during year 2, educators are expected to improve by 10%.

Table 24: Overall performance rate of Foundation Phase MTs on the Numeracy test

Number of MTs tested	Minimum % Score	Maximum % Score	Mean	Std. Deviation
142	5	53	25.31	10.992

Tables 25 and 26 break down the performance rates for respective provinces and cohorts.

[7] An additional 6 teachers from NON-IEP schools who volunteered to participate in the training were also tested, but these teachers are not included in the analyses

Table 25: Performance rate of Foundation MTs on the Numeracy test disaggregated by province

Province	Mean	N	Std. Deviation
EC	30.41	22	11.304
KZ	20.09	47	8.784
LP	24.36	50	10.198
NC	33.17	23	10.413
Total	**25.31**	**142**	**10.992**

Table 26: Performance rate of Foundation Phase MTs on the Numeracy test disaggregated by cohort

Cohort	Mean	N	Std. Deviation
Poor Performing	24.17	87	10.891
Better Performing	29.75	12	11.894
First Time Primary Schools	26.37	43	10.781
Total	**25.31**	**142**	**10.992**

Provincially, Northern Cape performed the best with an overall performance rate of 33% while KwaZulu-Natal scored the worst with an overall performance rate of 20% being achieved.

When cohorts are compared, Better Performing Schools performed the best overall obtaining a mean (performance rate) of 30%. This is followed by the First Group of New Primary Schools where an average score of 26% was obtained. MTs in the Poor Performing cohort performed the worst overall with a performance rate of 24%.

In terms of pass rate, of the 142 teachers who completed the numeracy test, only 1.4% attained a score of 50% or more (see table 27).

Table 27: Pass rate of Foundation Phase MTs on the numeracy test

	Frequency	Percent
No pass	140	98.6
Pass	2	1.4
Total	**142**	**100.0**

This means that almost all MTs who were assessed on the numeracy test are not able to meet the agreed 50% pass/no pass benchmarks required for a MT to pass the baseline in numeracy. In fact, only 2 teachers achieved the 50% benchmark.

Tables 28 and 29 disaggregate the pass rate per province and cohort.

Table 28: Pass rate of Foundation Phase MTs on the Numeracy test as disaggregated by province

Province		Frequency	Percent
EC	No pass	22	100.0
	Pass	0	.00
	Total	22	100.0

KZ	No pass	47	100.0
	Pass	0	.00
	Total	47	100.0
LP	No pass	49	98.0
	Pass	1	2.0
	Total	50.0	100.0
NC	No pass	22	95.7
	Pass	1	4.3
	Total	23	100.0

Table 29: Pass rate of Foundation Phase MTs on the numeracy test as disaggregated by cohort

Cohort		Frequency	Percent
Poor Performing	No pass	85	97.7
	Pass	2	2.3
	Total	87	100.0
Better Performing	No pass	12	100.0
	Pass	0	.00
	Total	12	100.0
First Time Primary	No pass	43	100.0
	Pass	0	.00
	Total	43	100.0

Tables 28 and 29 support the overall finding that a large percentage of MTs at the Foundation Phase struggled to successfully answer the items on the numeracy test correctly.

3.2.1.3 Performance and pass rates per Learning Outcome

The numeracy test assessed Foundation Phase teachers' performance in relation to the five Learning Outcomes as stipulated in the RNCS:

- LO1 – Numbers, operations and relationships
- LO2 – Patterns, functions and algebra
- LO3 – Space and shape
- LO4 – Measurement
- LO5 – Data handling

The items on the test were further divided into routine and non-routine questions:

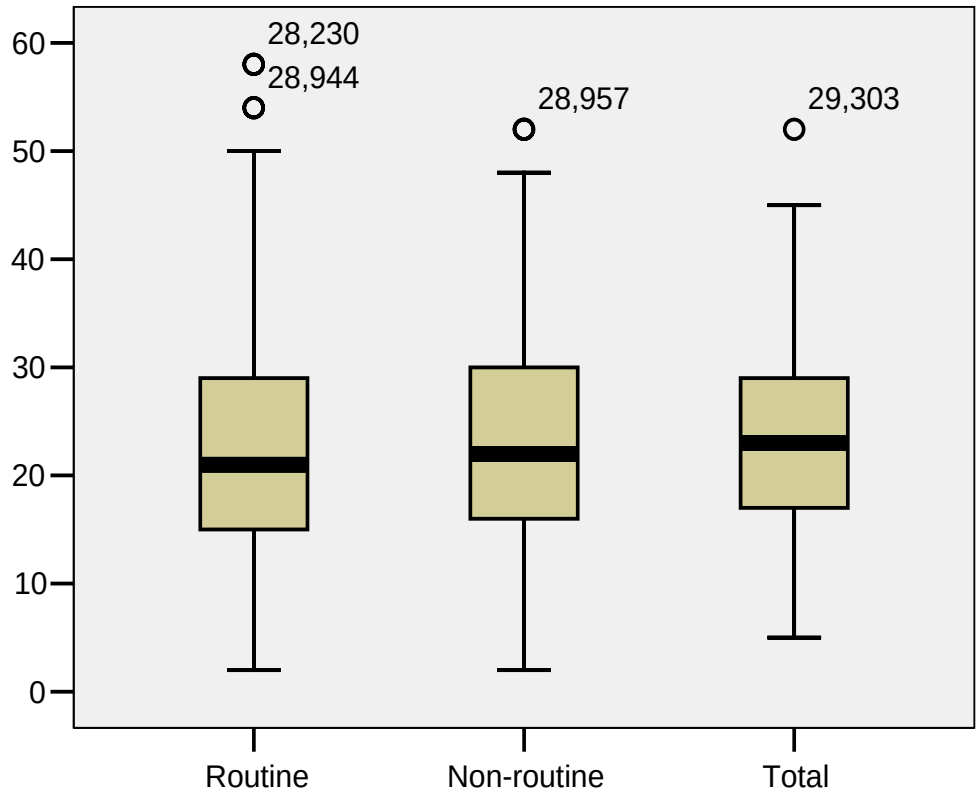
- **Routine Questions** are questions that one would expect (based on the Assessment Standards of the RNCS) a strong Foundation Phase learner to be able to answer correctly.
- **Non-routine Questions** are questions that one would expect a strong Intermediate Phase learner to be able to answer correctly.

Table 30 disaggregates the results achieved by Foundation Phase teachers across each of the numeracy LOs. This is represented graphically in Graphs 1, 2 and 3, which follows Table 30.

Table 30: Descriptive statistics of Foundation Phase MTs on the Numeracy test as disaggregated by Learning Outcome

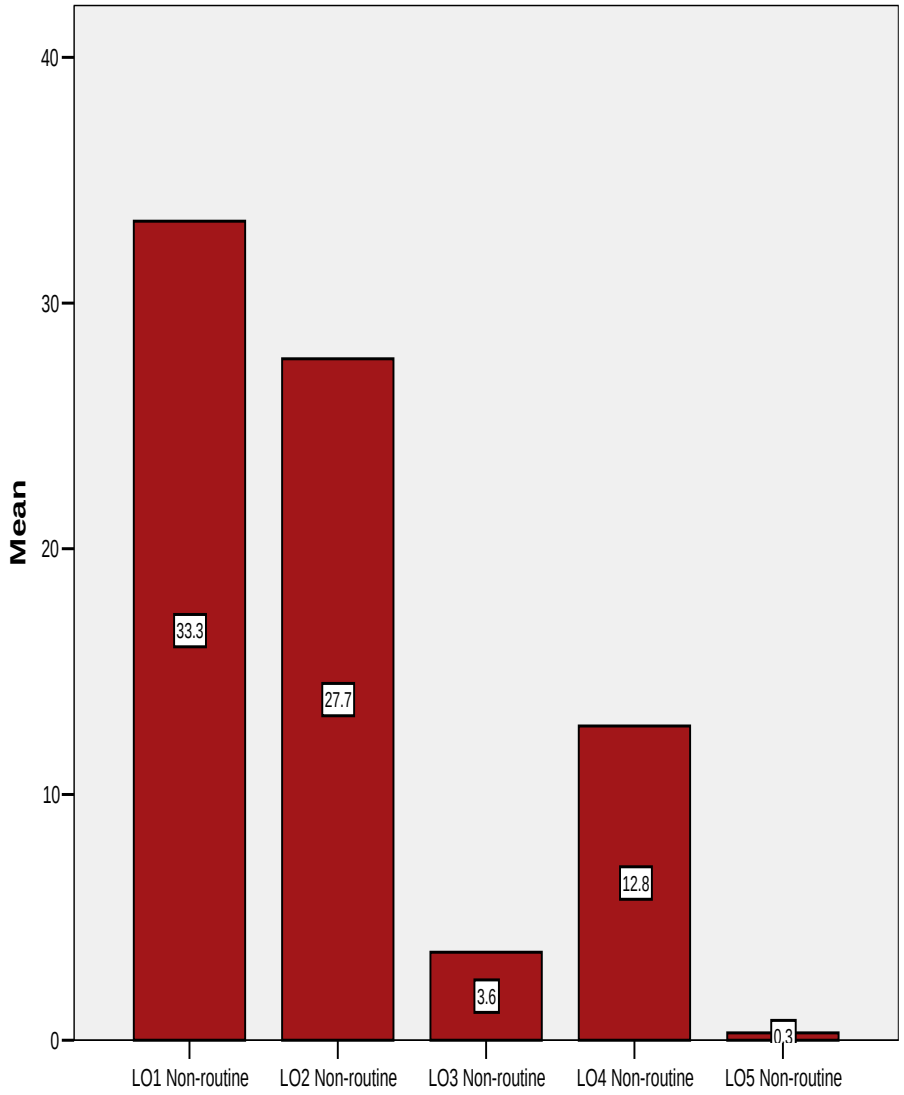
	LO1		LO2		LO3		LO4		LO5	
	Routine	Non Routine	Routine	Non Routine	Routine	Non Routine	Routine	Non Routine	Routine	Non Routine
Number	84[8]	84	84	84	84	84	84	84	84	84
Minimum	0	4	0	0	0	0	0	0	0	0
Maximum	100	71	100	100	63	50	63	67	100	25
Mean	40.45	33.33	19.64	27.73	17.55	3.58	23.35	12.79	14.58	0.30
Standard Deviation	26.08	14.23	39.59	25.31	16.89	19.38	17.23	22.7	22.7	2.73

Graph 1: Performance rates for routine and non-routine questions in numeracy

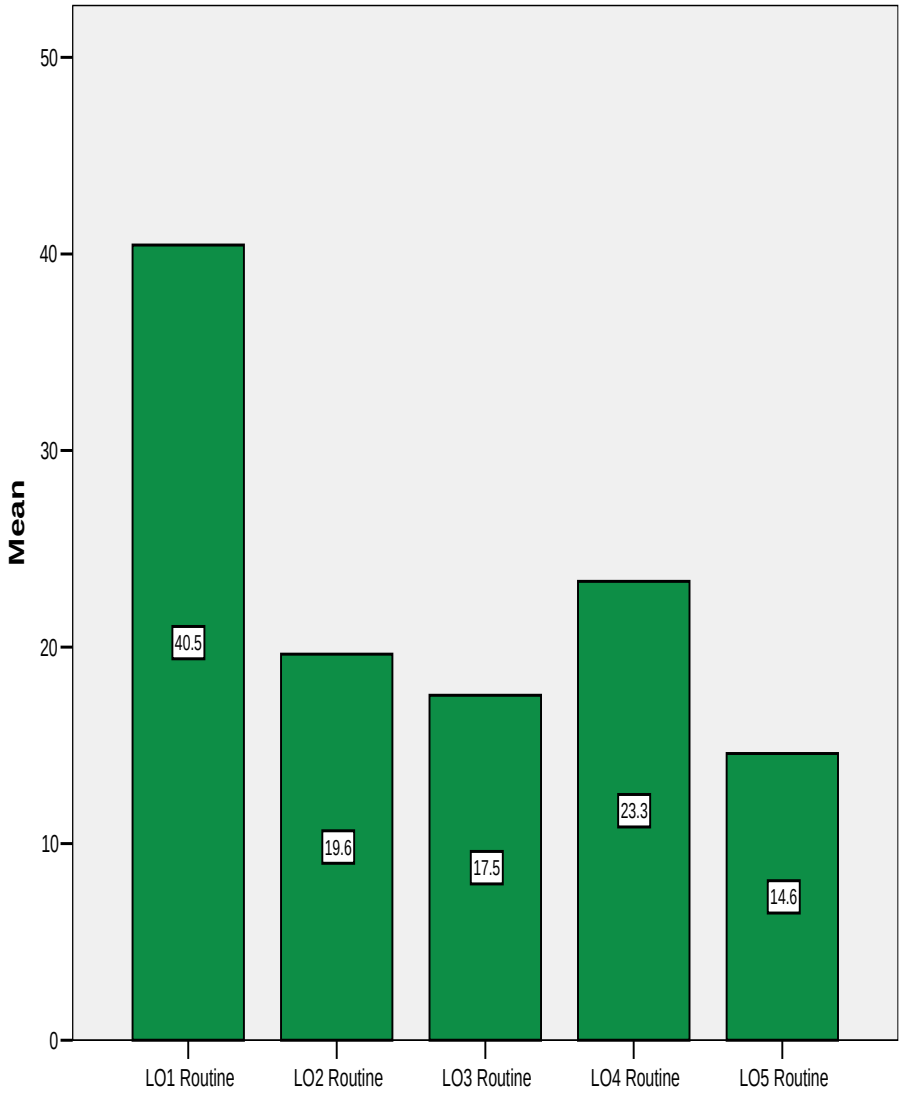


[8] A total of 142 Foundation Phase teachers reportedly wrote the test but itemised data was only available for 84 cases. This is possibly attributed to the testing in separate phases, i.e., Cohort 1 tested in late 2004 and Cohort 2 and 3 in early 2005. The means are therefore calculated out of the total of 84.

Graph 2: Performance rates for Non-routine questions across the five Learning Outcomes



Graph 3: Performance rates for Routine questions across the five Learning Outcomes



The statistics and graphs above show that Foundation Phase MTs are better able to correctly answer LO1 items (or items that deal with numbers, operations and relationships) in both routine and non-routine questions and struggle the most with LO5 items (or data handling items). Foundation Phase MTs also seem to struggle, to some extent, with items which assess space and shape (LO3).

As expected, the mean scores were lower for non-routine questions than for routine questions.

Although Foundation Phase MTs performed the best in LO1 questions, it should be noted that the mean score or performance rate was 33%. The fairly low score on LO1 and LO2 probably also explains the even lower scores attained on LO 3, 4 and 5.

According to the RTI-IEP cohort reports, focus has been placed on LO1 and LO2 skills during the residential training. Given the fairly poor results attained in LO1 and LO2, subcontractors have proposed that subsequent training on other LOs will take place only after the first two LOs have been satisfactorily addressed.

3.2.2. MATHEMATICS – INTERMEDIATE PHASE

3.2.2.1 Description of the sample

Overall 187[9] MTs completed the Mathematics test. Intermediate and Senior Phase Mathematics teachers were given the Mathematics Intermediate Phase test. Tables 31, 32 and 33 break this down by province, cohort and teaching phase respectively.

Table 31: Description of sample of MTs who completed the Intermediate Phase mathematics test per province

Province	Frequency	Percent
EC	48	25.7
KZ	41	21.9
LP	72	38.5
NC	26	13.9
TOTAL	**187**	**100.0**

Table 32: Description of sample of MTs who completed the Intermediate Phase mathematics test per cohort

IEP Cohort	Frequency	Percent
Poor Performing	112	59.9
Better Performing	14	7.5
First Time Primary Schools	61	32.6
TOTAL	**187**	**100.0**

[9] An additional 7 teachers from NON-IEP schools who volunteered to participate in the training were also tested, but these teachers are not included in the analyses

Table 33: Description of sample of MTs who completed the Intermediate Phase mathematics test per teaching phase

PHASE	Frequency	Percent
Intermediate	184	98.4
Senior	3	1.6
TOTAL	**187**	**100.0**

3.2.2.2 Overall performance and pass rates

As with the numeracy test, the mathematics test relates to IEP's Result 1. The baseline result for MTs on the mathematics test shows a performance rate of 30% across the four provinces (see table 34).

In line with baseline targets, during year 2, educators are expected to improve by 10%.

Table 34: Overall performance rate of MTs on the Intermediate Phase mathematics test

Number of MTs tested	Minimum % Score	Maximum % Score	Mean	Std. Deviation
187	1	68	26.03	13.171

Tables 35 to 37 break down the performance rates for respective provinces, cohorts and teaching phases.

Table 35: Performance rate of MTs on the Intermediate Phase mathematics test disaggregated by province

Province	Mean	N	Std. Deviation
EC	25.40	48	11.313
KZ	19.12	41	9.675
LP	24.42	72	10.376
NC	42.58	26	14.943
TOTAL	**26.03**	**187**	**13.171**

Table 36: Performance rate of MTs on the Intermediate Phase mathematics test disaggregated by cohort

Cohort	Mean	N	Std. Deviation
Poor Performing	23.31	112	10.795
Better Performing	26.93	14	15.682
First Time Primary	30.82	61	15.219
TOTAL	**26.03**	**187**	**13.171**

Table 37: Performance rate of MTs on the Intermediate Phase mathematics test disaggregated by teaching phase

Phase	Mean	N	Std. Deviation
Intermediate Phase	25.84	184	13.172
Senior Phase	37.67	3	7.234
TOTAL	**26.03**	**187**	**13.171**

Provincially, Northern Cape performed the best with an overall performance rate of 43% while KwaZulu-Natal scored the worst with an overall performance rate of 19% being achieved.

When cohorts are compared, First Time Primary Schools performed the best overall obtaining a mean (performance rate) of 31%. MTs in the Poor Performing cohort performed the worst overall with a performance rate of 23%.

At the teaching phase level, Senior Phase mathematics teachers performed the best achieving a mean of 38% while Intermediate Phase mathematics teachers performed the worst with an overall performance score of 26% being attained.

In terms of pass rate, of the 187 teachers who wrote the mathematics test, only 5% attained a score of 50% or more (see table 38).

Table 38: Pass rate of MTs on the mathematics test

	Frequency	Percent
No pass	177	94.7
Pass	10	5.3
TOTAL	**187**	**100.0**

Again, as with the numeracy test, this means that a large percentage of MTs who were assessed on the mathematics test are not able to meet the agreed 50% pass/no pass benchmarks required by a MT to pass the baseline in mathematics. In fact, only 10 teachers achieved the 50% benchmark. Tables 39, 40 and 41 disaggregate the pass rate per province, cohort and teaching phase.

Table 39: Pass rate of MTs on the mathematics test as disaggregated by province

Province		Frequency	Percent
EC	No pass	46	95.8
	Pass	2	4.2
	Total	48	100.0
KZ	No pass	41	100.0
	Pass	0	.00
	Total	41	100.0
LP	No pass	70	97.2
	Pass	2	2.8
	Total	72	100.0
NC	No pass	20	76.9
	Pass	6	23.1
	Total	26	100.0

Table 40: Pass rate of MTs on the mathematics test as disaggregated by cohort

Cohort		Frequency	Percent
Better Performing	No pass	13	92.9
	Pass	1	7.1
	Total	14	100.0
Poor Performing	No pass	110	98.2
	Pass	2	1.8
	Total	112	100.0
First Time Primary Schools	No pass	54	88.5
	Pass	7	11.5
	Total	61	100.0

Table 41: Pass rate of MTs on the mathematics test as disaggregated by teaching phase

Phase		Frequency	Percent
Intermediate	No pass	174	94.6
	Pass	10	5.4
	Total	184	100.0
Senior	No pass	3	100.0
	Pass	0	.00
	Total	3	100.0

3.2.2.3 Performance and pass rates per Learning Outcome

As with the numeracy test, the mathematics test assessed Intermediate and Senior Phase teachers on the five Learning Outcomes as stipulated in the RNCS (see section 3.2.1.3). The items on the test were further divided into Routine and Non-routine questions.

- **Routine Questions** are questions that one would expect (based on the Assessment Standards of the RNCS) a strong Intermediate Phase learner to be able to answer correctly.
- **Non-routine Questions** are questions that one would expect (based on the Assessment Standards of the RNCS) a strong Senior Phase learner to be able to answer correctly.

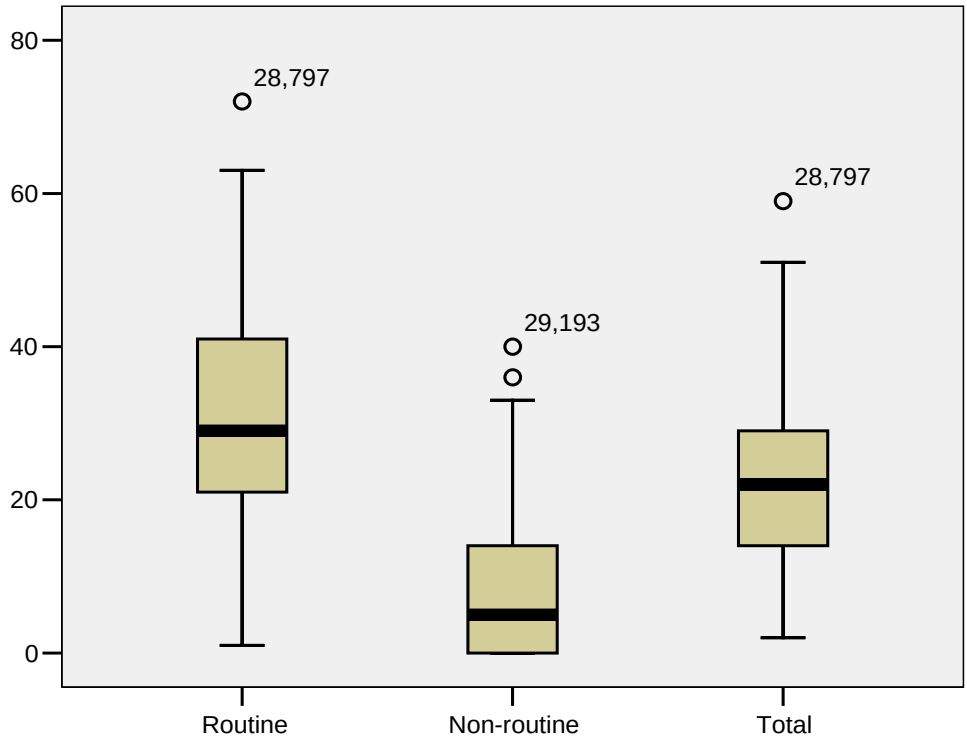
Table 42 disaggregates the results achieved by Intermediate and Senior Phase MTs across each of the mathematics LOs.

Table 42: Descriptive statistics of Intermediate Phase MTs on the mathematics test as disaggregated by Learning Outcome

	LO1		LO2		LO3		LO4		LO5	
	Routine	Non Routine	Routine	Non Routine	Routine	Non Routine	Routine	Non Routine	Routine	Non Routine
Number	106	106	106	106	106	106	106	106	106	106
Minimum	0	0	0	0	0	0	0	0	0	0
Maximum	100	60	85	80	91	67	63	67	100	0
Mean	51.80	14.58	27.45	3.21	28.06	6.55	13.06	5.46	13.46	.00
Standard Deviation	21.97	17.12	23.17	11.67	19.85	14.98	16.89	13.08	21.89	.000

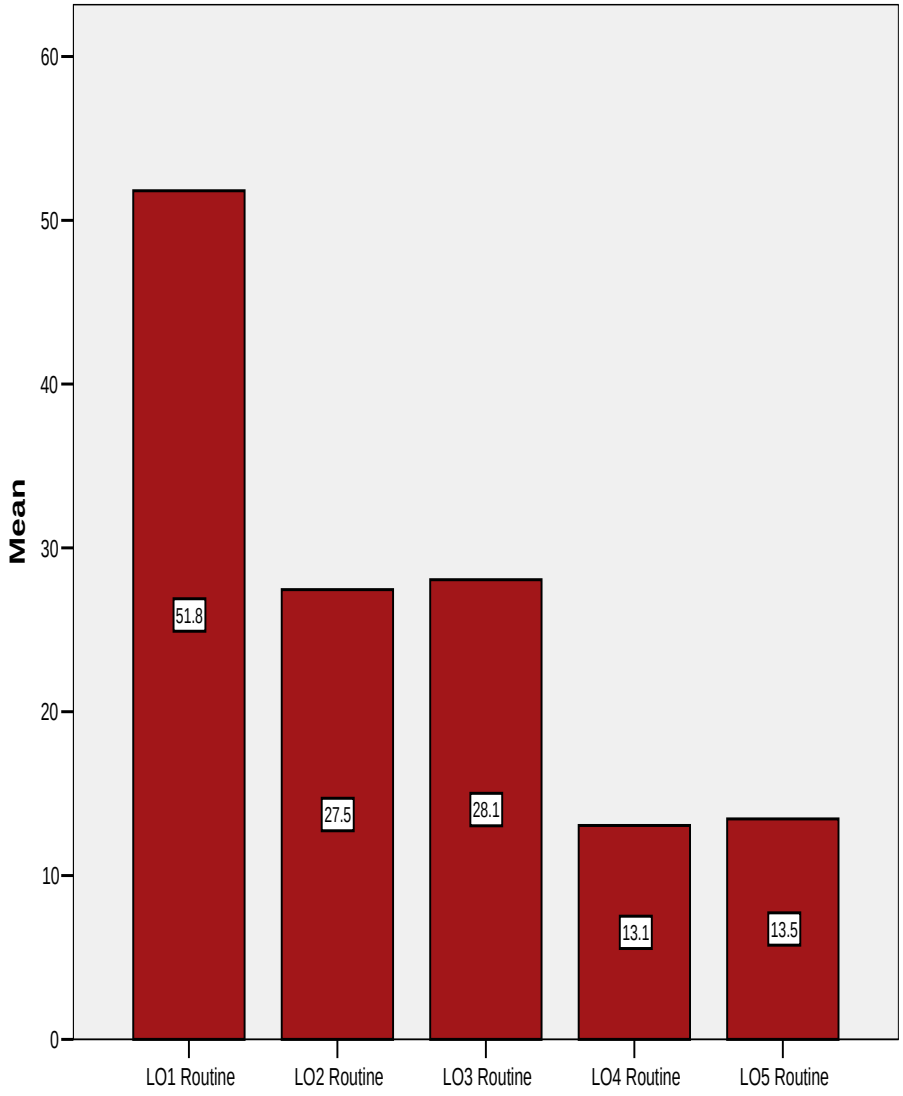
The overall performance rates for non-routine and routine questions is shown graphically in the boxplot below.

Graph 4: Performance rates for Intermediate Phase teachers on non-routine and routine questions on the mathematics test

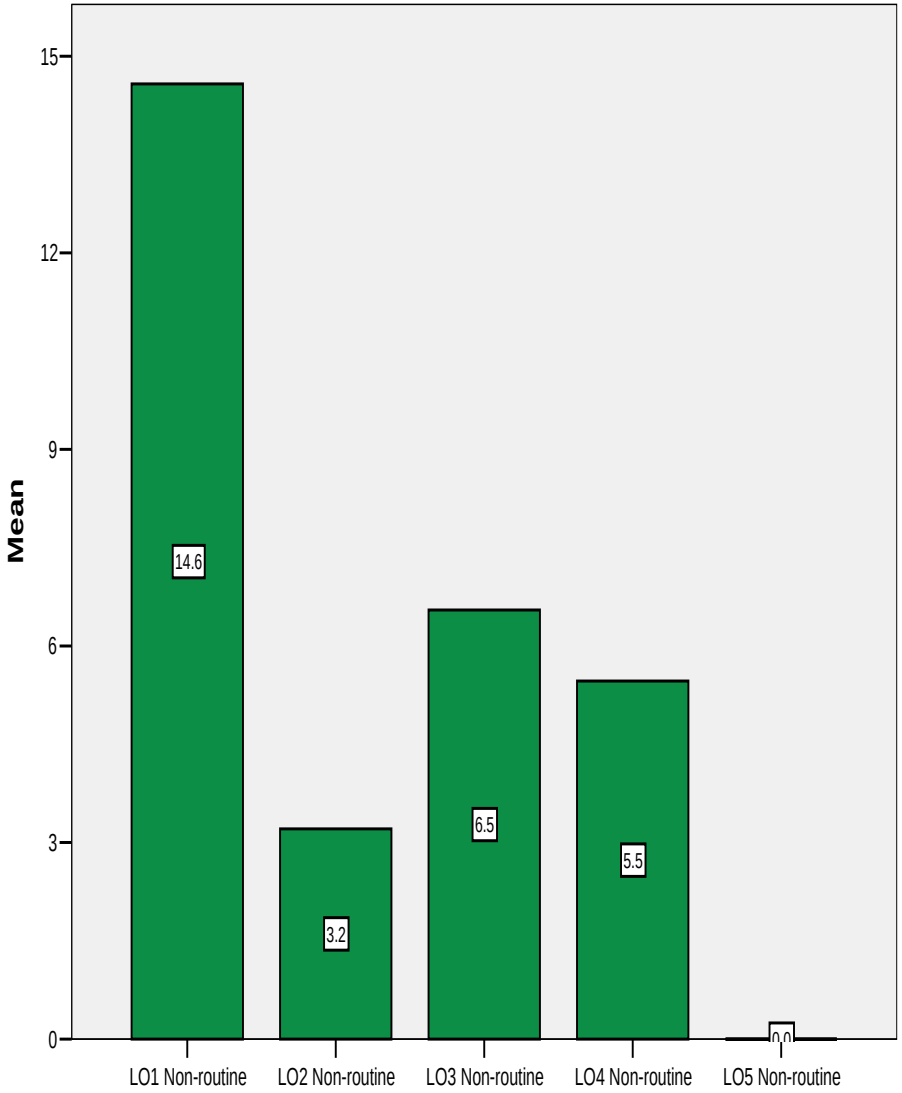


Both table 42 and graph 4 show that Intermediate Phase MTs performed much better on routine questions than on non-routine questions on the mathematics test.

Graph 5: Performance rates for Non-routine questions across the five Learning Outcomes



Graph 6: Performance rates for Routine questions across the five Learning Outcomes



When the performance across LOs are compared (see Graph 5 and 6), LO1 (numbers, operations and relationships) is the strongest skill for Intermediate and Senior Phase MTs across routine and non-routine type questions. Intermediate and Senior Phase MTs appear to have the greatest challenge with items that assess data handling (LO5) across both routine and non-routine questions. MTs also appear to have less content knowledge in terms of LO4 (measurement) routine and LO2 (patterns, functions and algebra) non-routine questions.

According to the RTI-IEP cohort reports, focus has been placed on LO1 and LO2 skills during the residential training. However, as with the numeracy test, given the fairly poor results attained in LO1 and LO2, subcontractors have proposed that subsequent training on other LOs will take place only after the first two LOs have been satisfactorily addressed.

3.2.3. MATHEMATICS – FET PHASE

3.2.3.1 Description of the sample

FET teachers from First Time High schools (cohort 4) in the Northern Cape province were tested on a separate mathematics test which was pitched at the FET level. Overall, 26[10] teachers wrote this test.

3.2.3.2 Overall performance and pass rates

As with the numeracy and the Intermediate Phase mathematics test, the FET Phase mathematics test relates to IEP's Result 1. The baseline result for MTs on the FET mathematics test show a performance rate of 59% (see table 43).

In line with baseline targets, during year 2, educators are expected to improve by 10%.

Table 43: Overall performance rate of MTs on the FET mathematics test

Number of MTs tested	Minimum % Score	Maximum % Score	Mean	Std. Deviation
26	29	98	58.73	19.723

The mean score of FET teachers is much higher than that of the Foundation, Intermediate and Senior Phase MTs which was less than 30%. It is likely that the higher mean scores at the FET band is attributed to teachers being more qualified to teach mathematics than those at the GET band (or primary school level).

In terms of pass rate, of the 26 teachers who wrote the mathematics test, most teachers (65%) attained a score of 50% or more (see table 44).

Table 44: Pass rate of MTs on the mathematics test

	Frequency	Percent
No pass	9	34.6
Pass	17	65.4
TOTAL	**26**	**100.0**

[10] According to information supplied by PROTEC, 12 teachers wrote the FET test. However, the data in the database shows that 26 teachers wrote the test. JET was unable to confirm the true number of teachers tested before this report was compiled.

This means that two thirds of MTs who were assessed on the FET mathematics test are able to meet the agreed 50% pass/no pass benchmarks required by a MT to pass the baseline in FET mathematics.

No information on knowledge/skills was available for the FET mathematics test when this report was compiled. However, subcontractors suggested that present and future training and empowerment of educators should focus on themes, items or topics[11] where the MT fell below the benchmark. More focus on and expansion of the application of knowledge in unfamiliar circumstances, especially outside the classroom context, is needed.

3.2.4 SCIENCE & TECHNOLOGY – INTERMEDIATE PHASE

Similar to the mathematics testing, separate science tests were developed for science teachers at the Intermediate Phase and the FET Phase. This section looks at the Intermediate Phase test results.

3.2.4.1 Description of the sample

Overall 242[12] MTs completed the science & technology test. Tables 45, 46 and 47 break this down by province, cohort and teaching phase respectively.

Table 45: Description of sample of MTs who completed the Intermediate Phase science & technology test per province

Province	Frequency	Percent
EC	54	24.3
KZ	46	20.7
LP	93	41.9
NC	29	13.1
TOTAL	**222**	**100.0**

Table 46: Description of sample of MTs who completed the Intermediate Phase science & technology test per cohort

IEP Cohort	Frequency	Percent
Poor Performing	149	67.1
Better Performing	12	5.4
First Time Primary Schools	61	27.5
TOTAL	**222**	**100.0**

[11] It is assumed that relevant subcontractors will have the necessary information to determine the areas of weaknesses.

[12] An additional 9 teachers from NON-IEP schools who volunteered to participate in the training were also tested, but these teachers are not included in the analyses

Table 47: Description of sample of MTs who completed the Intermediate Phase science & technology test per teaching phase

PHASE	Frequency	Percent
Intermediate	182	82.0
Senior	40	18.0
TOTAL	**222**	**100.0**

3.2.4.2 Overall performance and pass rates

As with the numeracy and both mathematics tests, the Intermediate Phase science and technology test relates to Result 1. The baseline result for MTs on the Intermediate Phase science and technology test show a performance rate of 55% across the four provinces (see table 48).

In line with baseline targets, during year 2, educators are expected to improve by 10%.

Table 48: Overall performance rate of MTs on the Intermediate Phase science & technology test

Number of MTs tested	Minimum % Score	Maximum % Score	Mean	Std. Deviation
222	21	94	54.57	14.203

Tables 49 to 51 break down the performance rates for respective provinces, cohorts and teaching phases.

Table 49: Performance rate of MTs on the Intermediate Phase science & technology test disaggregated by province

Province	Mean	N	Std. Deviation
EC	57.37	54	13.839
KZ	56.80	46	13.593
LP	50.05	93	14.291
NC	60.28	29	11.698
TOTAL	**54.57**	**222**	**14.203**

Table 50: Performance rate of MTs on the Intermediate Phase science & technology disaggregated by cohort

Cohort	Mean	N	Std. Deviation
Poor Performing	51.90	149	14.178
Better Performing	65.25	12	15.398
First Time Primary	58.98	61	11.974
TOTAL	**54.89**	**242**	**14.239**

Table 51: Performance rate of MTs on the Intermediate Phase science & technology test disaggregated by teaching phase

Phase	Mean	N	Std. Deviation
Intermediate	54.97	182	12.361
Senior	52.73	40	20.730
TOTAL	**54.57**	**222**	**14.203**

Provincially, Northern Cape performed the best with an overall performance rate of 60% while Limpopo scored the worst with an overall performance rate of 50% being achieved.

When cohorts are compared, the Better Performing Schools performed the best overall reaching a mean (performance rate) of 65%. This is followed by the First Group of Primary Schools where an average score of 59% was obtained. Intermediate/Senior Phase MTs in the Poor Performing cohort performed the worst overall with a performance rate of 52%.

At the teaching phase level, Intermediate Phase science teachers performed the best achieving a mean of 55% while Senior Phase Science teachers performed the worst, although not by much.

In terms of pass rate, of the 222 teachers who wrote the Intermediate Phase science & technology test, 62% attained a score of 50% or more (see table 52).

Table 52: Pass rate of MTs on the Intermediate Phase science & technology test

	Frequency	Percent
No pass	84	37.8
Pass	138	62.2
Total	**222**	**100.0**

Tables 53, 54 and 55 disaggregate the pass rate per province and cohort.

Table 53: Pass rate of MTs on the Intermediate Phase science & technology test as disaggregated by province

Province		Frequency	Percent
EC	No pass	17	31.5
	Pass	37	68.5
	Total	54	100.0
KZ	No pass	16	34.8
	Pass	30	65.2
	Total	46	100.0
LP	No pass	46	49.5
	Pass	47	50.5
	Total	93	100.0
NC	No pass	5	17.2
	Pass	24	82.8
	Total	29	100.0

Table 54: Pass rate of MTs on the Intermediate Phase science & technology test as disaggregated by cohort

Cohort		Frequency	Percent
Poor Performing	No pass	69	46.3
	Pass	80	53.7
	Total	149	100.0
Better Performing	No pass	2	16.7
	Pass	10	83.3
	Total	12	100.0
First Time Primary Schools	No pass	13	21.3
	Pass	48	78.7
	Total	61	100.0

Table 55: Pass rate of MTs on the Intermediate Phase science & technology test as disaggregated by teaching phase

Phase		Frequency	Percent
Intermediate Phase	No pass	67	36.8
	Pass	115	63.2
	Total	182	100.0
Senior Phase	No pass	17	42.5
	Pass	23	57.5
	Total	40	100.0

3.2.4.3 Performance and pass rates per Item

The Intermediate Phase science & technology test was made up of seven items as follows:

ITEM 1: (Section 1, Questions 1 to 15)

These are multiple-choice questions to assess the educator's basic knowledge in natural science. Fifteen of the 39 candidates (39%) who were assessed on the science & technology test failed to pass this item (i.e., they obtained a score of less than 50%), while 62% of the candidates achieved a pass mark of 50% or more.

The distribution of scores reveals that many Intermediate Phase educators need to improve their knowledge of basic scientific concepts.

Table 56: Distribution of scores for the Item 1 on the Intermediate Phase science & technology test

Distribution of Scores	Frequency	Percent
6.67	2	5.1
20.00	1	2.6
33.33	3	7.7
40.00	4	10.3
46.67	5	12.8
53.33	4	10.3
60.00	6	15.4
66.67	9	23.1
73.33	5	12.8
TOTAL	**39**[13]	**100.0**

ITEM 2: (Section 1, Question 16)

In this item, participants are requested to match (pair) the correct facts with one another and establish scientific relationships among the facts. The distribution of scores (in table 57) shows that 81% of the 39 teachers passed this section. The pass marks range from 58,3% to 92%. This is indicative that this section contains content that is well mastered by the many Intermediate Phase educators. The pass mark could also show that the questions to assess the content under item 2 is easier than the questions in item 1 or the educators are more familiar with this type of question.

Table 57: Distribution of scores for the Item 2 on the Intermediate Phase science & technology test

Distribution of Scores	Frequency	Percent
.00	1	2.7
16.67	1	2.7
33.33	1	2.7
41.67	4	10.8
50.00	4	10.8
58.33	7	18.9
66.67	8	21.6
75.00	6	16.2
83.33	4	10.8
91.67	1	2.7
TOTAL	**37**	**100.0**

ITEM 3: (Section 1, Question 17)

These questions assess the ability of the participants to apply their knowledge in a broader context (sometimes outside the classroom situation). 63% of participants passed, three of which achieved overall scores of 100%. Fourteen teachers failed

[13] Itemised data was not available for all candidates, only overall scores on the test was available for all 182 teachers. Itemised data was available only for Limpopo and Eastern Cape, no itemised data was available for Northern Cape and KwaZulu-Natal. As a result, the distribution tables (Tables 54-60) are based on cases where itemised data is available.

(37%). It is evident that a number of participants struggle with applying their knowledge in unfamiliar context (in or outside the school situation).

Table 58: Distribution of scores for the Item 3 on the Intermediate Phase science & technology test

Distribution of Scores	Frequency	Percent
12.50	2	5.3
25.00	7	18.4
37.50	5	13.2
50.00	5	13.2
62.50	8	21.1
75.00	4	10.5
87.50	4	10.5
100.00	3	7.9
TOTAL	**38**	**100.0**

ITEM 4: (Section 2 – Technology; Question 1 – Structures)

The question is set to assess the ability of the Master Teacher to apply their knowledge of structures on a paper model of a swing. One candidate passed while 36 (or 97%) failed. In fact, most (76%) scored zero on this item. This shows that the educator's knowledge on structures is poor, in some cases non-existent.

Table 59: Distribution of scores for the Item 4 on the Intermediate Phase science & technology test

Distribution of Scores	Frequency	Percent
.00	28	75.7
16.67	4	10.8
33.33	4	10.8
50.00	1	2.7
TOTAL	**37**	**100.0**

ITEM 5: (Section 2 – Technology; Question 2 – Processing)

The question assesses the knowledge of the educator on processing and the application thereof. Twenty candidates (55%) passed this test while 45% of participants failed. It is evident that almost half the Intermediate Phase teachers who were assessed on science & technology have a vague background on processing.

Table 60: Distribution of scores for the Item 5 on the Intermediate Phase science & technology test

Distribution of Scores	Frequency	Percent
20.00	4	10.5
40.00	13	34.2
50.00	1	2.6
60.00	10	26.3
80.00	10	26.3
TOTAL	**38**	**100.0**

ITEM 6: (Section 2 – Technology; Question 3 – Mechanical Systems)

In this item the educators' knowledge of concepts on mechanical systems is assessed. Only 5 participants passed this item with a pass mark ranging form 57% to 71%. The majority of Intermediate Phase teachers did not reach the 50% pass mark. This shows that the Master Teachers (at the Intermediate Phase) are not very familiar with:

- the concepts that were assessed; and
- the example (bicycle) to illustrate the concepts.

Table 61: Distribution of scores for the Item 6 on the Intermediate Phase science & technology test

Distribution of Scores	Frequency	Percent
.00	1	2.7
14.29	5	13.5
21.43	1	2.7
28.57	12	32.4
42.86	13	35.1
57.14	4	10.8
71.43	1	2.7
TOTAL	**37**	**100.0**

ITEM 7: (Section 2 – Technology; Question 4 – Electrical Systems)

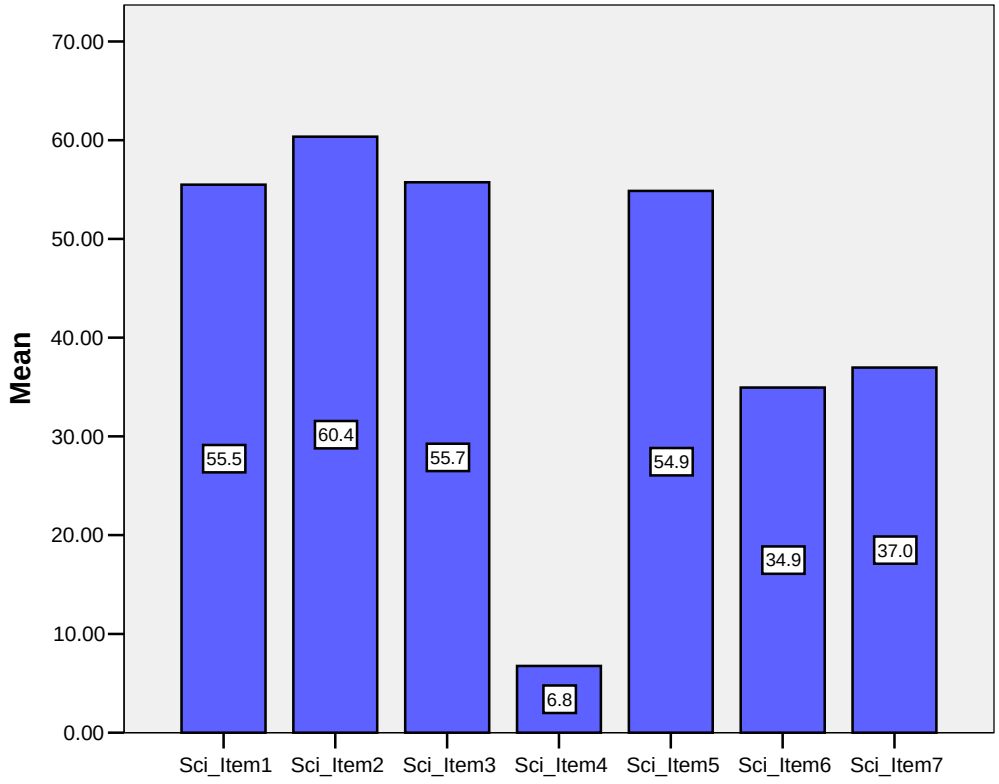
The Master Teachers' knowledge on components of a circuit, the function of these components and energy conversion is assessed. Seven Intermediate Phase MTs (20%) obtained pass marks, while 30 (or 80%) MTs failed. This indicates that the educators are not very conversant with the topic of electrical systems and most struggled to apply their knowledge of electrical systems successfully.

Table 62: Distribution of scores for the Item 7 on the Intermediate Phase science & technology test

Distribution of Scores	Frequency	Percent
.00	2	5.4
11.76	1	2.7
14.71	1	2.7
23.53	2	5.4
29.41	6	16.2
35.29	6	16.2
41.18	8	21.6
47.06	4	10.8
52.94	5	13.5
58.82	1	2.7
64.71	1	2.7
TOTAL	**37**	**100.0**

The comparison between each of the science and technology items is depicted graphically below.

Graph 7: Comparison of mean scores across the 7 items on the Intermediate Phase science & technology test



On the basis of these findings, subcontractors have put forward the following strategies:

- Present and future training and empowerment of educators to focus on themes/ items/ topics where the Master Teachers failed below the benchmark.
- Provide cluster support to Master Teachers.
- Focus on and expand the application of knowledge in unfamiliar circumstances, especially outside the classroom context.

Data for 20 FET Phase science MTs in Northern Cape was unfortunately not available when this report was compiled and therefore no information on their performance is discussed.

3.2.5 FIRST ADDITIONAL LANGUAGE (ENGLISH)

3.2.5.1 Description of the sample

Overall 181[14] MTs completed the first additional language content test. Tables 63, 64 and 65 break this down by province, cohort and teaching phase respectively.

[14] An additional 2 teachers from NON-IEP schools who volunteered to participate in the training were also tested, but these teachers are not included in the analyses

Table 63: Description of sample of MTs who completed the first additional language test per province

Province	Frequency	Percent
EC	72	39.8
KZ	33	18.2
LP	53	29.3
NC	23	12.7
TOTAL	**181**	**100.0**

Table 64: Description of sample of MTs who completed the first additional language test per cohort

IEP Cohort	Frequency	Percent
Better Performing	9	5.0
Poor Performing	111	61.3
First Time Primary	61	33.7
TOTAL	**181**	**100.0**

Table 65: Description of sample of MTs who completed the first additional language test per teaching phase

Phase	Frequency	Percent
Foundation Phase	176	97.2
Intermediate Phase[15]	5	2.8
TOTAL	**181**	**100.0**

3.2.5.2 Overall performance and pass rates

As with the other content tests, the first additional language test relates to Result 1. The baseline result for MTs on this test shows a performance rate of 70% across the four provinces (see table 66).

In line with baseline targets, during year 2, educators are expected to improve by 10%.

Table 66: Overall performance rate of MTs on the first additional language test

Number of MTs tested	Minimum % Score	Maximum % Score	Mean	Std. Deviation
181	26	92	69.90	11.090

Tables 67 to 69 break down the performance rates for respective provinces, cohorts and teaching phases.

[15] Intermediate Phase teachers were not required to sit for the test – only Foundation Phase teachers were. Nevertheless, their results are included in the analyses.

Table 67: Performance rate of MTs on the first additional language test disaggregated by province

Province	Mean	N	Std. Deviation
EC	72.86	72	8.962
NC	70.78	23	9.332
LP	69.17	53	11.225
KZ	64.00	33	13.852
Total	69.90	181	11.090

Table 68: Performance rate of MTs on the first additional language test disaggregated by cohort

Cohort	Mean	N	Std. Deviation
Poor Performing	69.56	111	11.887
Better Performing	63.44	9	10.772
First Time Primary	71.48	61	9.242
Total	**69.90**	**181**	**11.090**

Table 69: Performance rate of MTs on the first additional language test disaggregated by teaching phase

Phase	Mean	N	Std. Deviation
Foundation	69.59	176	11.044
Intermediate	80.80	5	6.723
Total	**69.90**	**181**	**11.090**

Provincially, Eastern Cape performed the best with an overall performance rate of 73% while KwaZulu-Natal scored the worst with an overall performance rate of 64% being achieved.

Cohort comparisons showed that First Time Primary schools performed the best overall obtaining a mean (performance rate) of 71%. This is followed closely by the Poor Performing Cohort where an average score of 70% was obtained. MTs in the Better Performing cohort performed the worst overall with a performance rate of 63%.

At the teaching phase level, Intermediate Phase Language teachers performed the best, achieving a high mean of 81% while Foundation Phase Language teachers performed the worst achieving a performance rate of 70%. It is likely that the higher mean scores at the Intermediate Phase is attributed to teachers having to teach in English as English is the dominant LOLT from Grade 4 upwards. Foundation Phase teachers in contrast teach in the mother tongue, which is generally not English (i.e., IsiZulu, IsiXhosa, Sepedi, Tshivenda, Afrikaans, or Xitsonga).

In terms of pass rate, of the 181 teachers who wrote the Language test, 83% of MTs attained a passing score of 60% or more (see table 70). The benchmark of 60% was based on the assumption that, given that the level of the test was between Intermediate and Senior Phase, teachers should all be able to perform at a rate of 60% or more. As it emerged, teachers performed better than expected. With hindsight, the test could have been made more difficult.

Table 70: Pass rate of MTs on the first additional language test

	Frequency	Percent
No pass	31	17.1
Pass	150	82.9
Total	**181**	**100.0**

Tables 71, 72 and 73 disaggregate the pass rate per province, cohort and teaching phase.

Table 71: Pass rate of MTs on the first additional language test as disaggregated by province

Province		Frequency	Percent
EC	No pass	6	8.3
	Pass	66	91.7
	Total	72	100.0
KZ	No pass	11	33.3
	Pass	22	66.7
	Total	33	100.0
LP	No pass	10	18.9
	Pass	43	81.1
	Total	53	100.0
NC	No pass	4	17.4
	Pass	19	82.6
	Total	23	100.0

Table 72: Pass rate of MTs on the first additional language test as disaggregated by cohort

Cohort		Frequency	Percent
Better Performing	No pass	2	22.2
	Pass	7	77.8
	Total	9	100.0
Poor Performing	No pass	21	18.9
	Pass	90	81.1
	Total	111	100.0
First Time Primary	No pass	8	13.1
	Pass	53	86.9
	Total	61	100.0

Table 73: Pass rate of MTs on the first additional language test as disaggregated by teaching phase

Phase		Frequency	Percent
Foundation	No pass	31	17.6
	Pass	145	82.4
	Total	176	100.0
Intermediate	No pass	5	100.0
	Pass	0	.00
	Total	5	100.0

3.2.5.3 Performance and pass rates per first additional language skill

The first additional language content test was made up of six questions which assessed the following knowledge and skills:

Table 74: Description of language knowledge / skills being assessed on the first additional language test

No.	Language skill	Description of knowledge / skills
1	Alphabetical order (Referencing skills; alphabetical order)	**Knowledge** of the alphabet and alphabetical order up to the fifth letter; knowledge of word structure/spelling; understanding of how reference books work **Skills:** Alphabetical ordering; thinking and reasoning; study skills
2	Punctuation: (Punctuation; complex sentences; direct and indirect speech)	**Knowledge:** Conventions of punctuation: full stops, speech marks, and capitalization; knowledge of complex sentences; reading to infer meaning. **Skills:** Making meaning from text; identifying sentences; punctuating text.
3	Comprehension: (Reading with understanding; answering questions; figures of speech)	**Knowledge** of semantic, syntactic and grapho-phonic cues when reading (reading strategies); knowledge of figures of speech; broad reading vocabulary **Skills:** Making meaning from text, completing a cloze activity, answering questions, identifying figures of speech.
4	Language structure and use: (Language structure and use)	**Knowledge** of English language: Verb/subject agreement, pronouns, tense, use of continuous tenses, word order, plurals, degrees of comparison **Skills:** Correcting incorrect language; identifying common errors; multiple choice
5	Graphic interpretation and writing (Reading for information - reads diagrams; transfers information from one mode to another; writes a series of instructions)	**Knowledge**: Visual literacy; thinking and reasoning skills; features of a set of instructions; how text relates to illustrations; transferal of information **Skills:** Reading and interpreting a simple map, following instructions, answering true\false questions, writing a series of sequential instructions
6	Genre: (Compares different kinds of text; identifies features of texts)	**Knowledge:** Features, purpose and context of different types of texts **Skills:** Reading and identifying different types of texts, classifying text, identifying purpose and features of texts; comparing different kinds of text

Unfortunately, no itemized data was available for the first additional language content test at the time this report was compiled. We can therefore not verify what the areas of strengths and weaknesses are. The main two areas of weaknesses identified by subcontractors were:

- The interpretation of maps and giving directions; and
- Common grammatical and syntactical errors in usage.

Given the performance of learners on the JET test, who also showed similar weaknesses, it is plausible that the results are a true reflection of the areas of weaknesses.

Subcontractors have, in response to these identified weaknesses, implemented the following steps:

- A slot to improve teachers' language competence has been built into every training session.
- A self-assessment tool has been constructed and introduced in subsequent modules to ensure improvements and their sustainability.

4. SUMMARY AND CONCLUSION

For reporting purposes the following table provides a consolidated overview of performance across the different content tests:

Table 75: Pass rate of MTs across all content tests (excluding EQ)

Total number of MTs tested on content knowledge tests	Minimum	Maximum	Mean	Std. Deviation
778	1	98	46.18	22.464

The performance of MTs in these baseline tests provide a starting point for monitoring and evaluating progress towards achieving the project goal: “Improved student performance in numeracy, literacy, mathematics and science for students in participating schools.” This is particularly so for Results 1, 2, 4 and 5. It is anticipated that the participation of MTs in the planned residential training workshops, as well as in cluster-based training and school support activities, will result in improvements over the baselines presented in this report for IEP results 1, 2, 4, and 5.

A point worth noting: to ensure that the accurate monitoring of respective results is done, careful attention must be given to database management which includes data verification and data cleaning once data has been captured.

It would be wise to verify the strengths and weaknesses, which were identified in this report, by respective learning area sub-contactors through on-site visits.